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Unresolved Issue of Archaeology: Can There be Secure Knowledge of the Past?*

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Abstract: In an attempt to answer the question, Can there be secure knowledge of the past?, this paper discusses epistemological aspect of archaeological data by following Ian Hodder's arguments. After dealing with material culture, system versus individual, history versus natural science, ethnoarchaeology and middle range theory, and context, we concluded that we cannot have certitude with respect to the conclusions of archaeology, but post-processual archaeology offers better prospects for justification of archaeological conclusions than does processual archaeology.

Keyword: archaeology material culture processual archaeology post-processual archaeology

1. Introduction

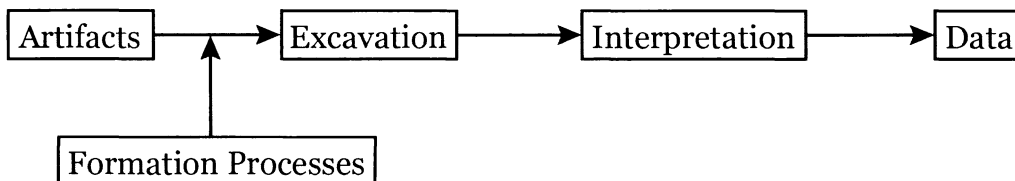
New Archaeology, or processual archaeology, was advocated during the 60's by a younger group of archaeologists led by Lewis Binford. It sought to replace older, traditional archaeology by emphasizing the following contrasts: archaeology had to be explanatory rather than descriptive; unlike the traditional approach relying on historical explanation (cultural history), the new approach would investigate how changes in social and economic systems take place (cultural process); formulating and testing hypotheses should become the standard approach; in terms of reconstructing social organization, the New archaeologists were more optimistic

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about archaeological data than traditional archaeologists (Renfrew & Bahn 1991: 35). The processual archaeology became a dominant approach in the field of archaeology.

In his landmark book, *Reading the Past*, Hodder (1986) challenged the mainstream archaeology since the 70's. He stated that New Archaeology, also called processual archaeology, was "flawed". His argument sparked a series of debates among archaeologists, and marked the beginning of post-processual archaeology. In this paper, in order to answer the question of secure knowledge, i.e., can we have certitude with respect to the conclusions of archaeology?, we will discuss the epistemological aspect of archaeological data by following Hodder's arguments in terms of material culture, system versus individual, history versus natural science, ethnoarchaeology and middle range theory, and context.

Before going to Hodder's arguments, simplifying how archaeologists recover data will be useful in our discussion:



Brilliant research by Schiffer (1987) has clarified that artifacts are affected by two formation processes: cultural formation processes (C-transforms) and natural formation processes (N-transforms). C-transforms include the accidental or deliberate activities of human beings as they make or use artifacts, build or abandon buildings, and so forth. N-transforms are natural phenomena that govern both the burial and survival of the artifacts. They include the gradual burial of artifacts or features by wind-borne sand or soil, the transportation of artifacts by flowing water, and activities of animals such as burrowing (Schiffer 1987). Assuming excavation is properly done, artifacts must be interpreted with consideration of formation processes in order to be useful archaeological data. These imply the extent of difficulty in "reading the past" and the limitation of the available data.

2. Question of Material Culture

Material culture may not be a direct reflection of human behavior. According to Schiffer (1976), the relationship between material remains and the behavior of the people can be affected by cultural transforms. The intensity and duration of site use coincide with more organization and secondary movement of refuse away from areas of activity. Citing the case of burial, however, Hodder (1986:2) argues against a general correlation suggested by Binford (1971) between the complexity of social organization and the complexity of mortuary practices. For instance, modern Cambridge society still uses egalitarian fashion to bury its dead instead of having a sophisticated mortuary practice that reflects modernization.

Hodder is probably right to indicate that it is ideas, beliefs and meanings which interpose themselves between people and things. Attitudes about death determine how burial reflects society. Cultural boundaries and refuse deposition are a similar example. In order to tell whether a particular artifact does express the boundary of an ethnic group, we need to examine the ideas people have about different artifacts and an appropriate artifact as ethnic group marker. Attitudes about cleanliness affect the relationship between refuse and social organization; therefore, highly organized rubbish can be produced by short-term camps and refuse lacking the notion of hygiene by long-term camps. Thus, material culture, instead of being a direct reflection of human behavior, is a transformation of that behavior (Hodder 1986:3).

3. System versus Individual

The processual archaeology avoided the individual, because this inhibits generalization. As Flannery (1967) stated, reaching the individual Indian behind the artifact was not the aim while reaching the system behind both Indian and artifact was. It was believed that culture and individuals were powerless to divert certain systems because they were so basic in nature.

In our opinion, this system-thinking is counterproductive, and we cannot help but agree with Hodder that each archaeological object is produced by an individual/group, not by a social system. Each pot is made by an individual forming

the shape, inscribing the design. The question to be asked is the relationship between the individual pot and the society as a whole (Hodder 1986:7).

In the processual archaeology, individual pots are passive reflections of the socio-cultural system. How each pot functioned for the system as a whole could be examined; e.g., it regulated the flow of energy and resources within the system. Moreover, because the system was to develop over the long term, individual instances would be of no significance for the long term survival of the system if they did not act for the good for the system as a whole. When individuals were making a pot, the only importance was its function in the social system, not what the individuals were trying to do with the object (Hodder 1986:7).

The reason for avoiding the individual is that it is difficult to take into account exceptions created by individuals in the process of generalization. This point is clarified by Salmon (1982). According to Salmon, laws can be expressed in either universal or statistical (probabilistic) generalizations. Their applications are not restricted to any particular individual, time or place. For example, the statement "there is a 0.51 chance of all human babies being born male" emphasizes this lack of dependence on specific time, place or individual. A statement which is not restricted to time, place or individual can fail to be either a universal or a statistical generalization, e.g., "some hunter-gatherers are sedentary." As Salmon (1982:11) indicates, this type of statement expresses the overlap of two classes to the extent that they share at least one member; either universal or statistical generalizations must be used to express laws. Unfortunately many 'bad laws' are said to be produced by processual archaeologists. These laws appear to be real laws, but they are often obvious statements explaining very little: for example, "As population grows at a site, the number of storage pits will increase."

Universal generalizations differ from statistical ones in terms of the requirements for falsification. Occurrence of single exception can force a universal generalization to be rejected or modified while such a counterexample will not leave statistical generalizations vulnerable (Salmon 1982:13). If processual archaeology depended on universal generalization, exceptions would jeopardize interpretation; therefore, statistical generalization must be adopted for the processual approach.

Statistical laws do exist, but we still have to face some difficulties in

applying them to data. In attempting to explain some phenomena such as extinction of megafauna and the abandonment of southwest Pueblos in the U.S., we certainly know laws that might govern these phenomena: destruction of habitat can cause extinction; links between the destruction of species and predatory behavior have regularities; dwellings will be abandoned due to outside pressures such as attacks from invaders or extensive periods of drought. However, as Salmon admits, we do not know which of the laws we can apply to the situation above. Supposing several are applicable, assessing their relative importance is difficult. It is not an easy task to calculate the effects of any interaction between operative regularities. Moreover, we have to face the difficulty of distinguishing the relevant initial conditions from those that are not relevant, and information of any kind about the initial conditions is often not available (1982:23).

4. History versus Natural Science

In contrast to Binford (1983:20-23) who believes that archaeology should follow natural science, Hodder argues that traditional links with history should be recaptured. Hodder tries to clarify what the term history means: it involves getting at the inside of events, at the intentions and thoughts of subjective actors (1986:77).

By adopting the question raised by Collingwood (1946): how do we get at past cultural meanings?, Hodder again discards the processual approach. For instance, the processual approach assumes that burial is for social display; thus, status rivalry will be reflected in succession burials. This way of interpreting the function of burials assumes what they meant to the people in those days. It is difficult, Hodder (1986:78) states, to see how an artifact can have a social function such as burial for social display if the meaning is not appropriate to the function.

We believe that subjective meanings are assumed in the minds of people long gone as Hodder indicates. For example, reconstruction of the economy of a prehistoric site is often based on bone residues, but to make assumptions about bones discarded bones on settlement bearing any relation to the economy is to assume how people perceived animals, bones, the process of discarding and so on. Hodder is correct that assuming that the bones are not transformed culturally is

to assume that the people had attitudes not so dissimilar to ours. We cannot describe archaeological data without some interpretive terms implying purpose, such as wall, pottery, and hearth. This is an undeniable fact: in order to do archaeology, we must make assumptions about subjective meanings in the minds of the people long dead (Hodder 1986:78-79).

To face the subjectivity of meaning directly, Hodder rightly suggests, we adopt a historical approach, which allows us to understand human action, that is, getting at subjective meanings, at the inside of events. History in this sense is to study how subjective meanings come about from historical contexts (1986:80).

Hodder adopts the historical methods of Collingwood (1946) to tackle subjective meanings. According to Collingwood, the data themselves are problematic and the use of cross-cultural generalization in interpreting historical data is denied. In his view, the data do not exist because they are perceived or given by a theory (1946:243). The answer to the question of how to validate our hypotheses is that we do not validate them because Collingwood imagined no security, no robustness, no proof. There can only be continual debate and approximation (Hodder 1986:93-94).

Although such a statement appears to be disturbing, Collingwood demonstrated that we can be rigorous in reconstructing the past and can derive criteria to judge between theories. The procedure is that we immerse ourselves in the contextual data, re-enacting the past through our own knowledge. Collingwood states that historical knowledge is the knowledge of what the mind has done in the past, and at the same time, it is the re-doing of this, the perpetration of past acts in the present (1946:218). Hodder explains what Collingwood means: every statement about the past involves assuming meaning content in the past; e.g., this is a hunter-gatherer camp. In this sense, we think ourselves into the past, the fact Collingwood is indicating, and he also suggests that we must do it critically (1986:94).

Through a process of asking questions and seeking answers, we "relive" the past. Instead of simply observing the data, we must ask questions to bring them into action. For example, why was a building like that erected?; why was stone used to build this wall? Hodder indicates that our reconstructions of historical

meanings are based on arguments of coherence and correspondence in relation to the data as perceived (1986:96). Clearly, Hodder admits, no certainty can ever be achieved in this way, but knowledge of the past can be accumulated through critical application of the method.

5. Ethnoarchaeology and Middle Range Theory

Middle Range Theory is a distinct body of ideas to bridge the gap between raw archaeological evidence and the general observations and conclusions to be derived from it (Renfrew & Bahn 1991:10). Ethnoarchaeology, one of the strategies for inference about the past (Binford 1983:24-26), is characterized as an archaeological method, i.e., it records the relationships between statics (material) and dynamics (behavior) by using objective, external, non-participant observation. One of the goals of ethnoarchaeology is the production of Middle Range Theory. Binford (1983) suggests that archaeologists need to develop arguments of relevance about the relationships between material culture and society. He believes that there should be independent measuring devices, which can be applied to read the archaeological data. Hodder (1986:103) finds it difficult to see how there can ever be universal laws (not statistical laws) of cultural process which are independent of one's higher-level cultural theories. The type of measuring device discussed by Binford cannot exist independent of cultural context.

The concern of ethnoarchaeology has moved from the outside to the inside of events. In order to achieve adequate understanding of material culture, long-term participation in the cultures studied is necessary. Hodder then raises the question: it seems that there is little difference between such inside participatory ethnoarchaeology and ethnography or social anthropology (Hodder 1986:104). Because social anthropologists are more qualified in the techniques of sampling, interviewing, recording, and so on, existence of ethnoarchaeology may be seriously questioned, and this approach be integrated with anthropology.

Hodder mentions extensively his field work in the Baringo district, Kenya, where he attempted to answer a question regarding a particular artifact type used by the Ilchamus tribe there: why were the Ilchamus the only group in the area who decorated their calabashes, incising them with rectilinear designs? One

approach to answer the question is to test some general theory or law-like generalization, both of which are widely accepted in ethnoarchaeology. For instance, the Ilchamus decoration implies greater social complexity in comparison with other tribes; thus, more symbolic display is necessary. Or, one can argue that as the size of the social group increases and more interaction is needed with socially intermediate people, new styles emerge and the use of symbols increases. To test these theories, we simply look at the ethnographies to know the degree of social complexity and the size of this group in relation to other groups without decoration. By correlating with the decoration, hypotheses fitting the data will be determined (1986:105-106).

The problem with this approach, as Hodder points out, is that even with the terms of this cross-cultural approach, how do we know that the decoration has anything to do with social complexity or information flow? In addition, this type of approach denies the role of active individuals, of meaning, of history. At best this leads to bad science (1986:106).

To find the reason for the calabash decoration, Hodder immersed himself in the contextual information. After failing various attempts, Hodder decided to go back into the history of the Ilchamus to learn how the concept of these decorations developed. The greatest ritual leader of the Ilchamus in the past is called 'the decorated one'. The decoration of his skin and clothing distinguished himself from other male leaders. When the Ilchamus say that decoration makes things beautiful, their meanings are influenced by the historical associations with 'the decorated one'. By going back through time in this way, we can find historical associations to explain one state in terms of its antecedents. Hodder thinks that culture-history from the inside, though belittled by the processual approach, is a necessary part of archaeological explanation (1986:111-112). This is a very strong statement because the processual approach of seeking laws without geographical boundary advocates against culture-history.

6. Context

In order to reconstruct symbolic meaning in the past, Hodder advocates contextual archaeology. In excavation procedures, a major methodological issue has

been the concern for context. Schiffer (1987) made the important contribution in this regard (formation processes). Indeed, concern for context defines archaeology since artifacts must have contextual information to be meaningful. Hodder distinguishes two types of meaning of context: (1)the structured system of functional inter-relationships; (2)the structured content of ideas and symbols (Hodder 1986:120-121).

(1)By seeking the first type of meaning, we ask about the following: the human and physical environment, formation processes, organization of labor, size of settlement, exchanges of matter and information. The object is given its meaning by its functions in relation to economic and social structures. Processual archaeology has made a great contribution in this regard. Despite negative reaction to processual archaeology, we believe that this is the important achievement of processual archaeology.

(2)In order to consider the ideational or symbolic functions of objects, the content of ideas and symbols has be employed. This goes beyond saying, "this fibula functions to symbolize women" and questions, "what is the view of womanhood represented in the link between female skeletons and fibulae in graves?" In order to identify the meaning content behind the objects, archaeologists have to make abstractions from their symbolic functions.

Archaeologists work by identifying various types of relevant similarities and differences when they systematize the methodology to interpret past meaning content from material culture. There are four types of dimension of similarity and difference: temporal, spatial, depositional, and typological. The concern along the temporal dimension is to isolate a period or phase in which inter-related events are happening. In regard to the spatial dimension, we are concerned with identifying functional and symbolic meanings and structures from the arrangements of objects (and sites, and so on) over space. The depositional unit, layers of soil, pits, graves, ditches and the like, are considered to be a combination of the first two and to be bounded in space and time. The typological dimension is also a variant of the first two. Two artifacts with similar typological aspect have similar arrangements or forms in space (Hodder 1986:125-131).

7. Conclusion

In conclusion, many aspects of processual archaeology seem to be flawed. The sobering reality of material culture as an indirect reflection of human behavior forces us to abandon the optimistic view of processual archaeology. System-thinking has been counterproductive by sacrificing the individual on behalf of generalization. Although statistical generalizations exist, applying them to data faces enormous difficulties. Processual archaeologists have followed natural science characterized by hypothesis testing, but by denying culture-history, they are ill-equipped with facing the subjectivity of meaning. Although ethnoarchaeology and Middle Range Theory are supposed to help inference about the past, their existence is now under question. There is no doubt that processual archaeology has made important contributions to seeking the structured system of functional inter-relationships, but the content of ideas and symbols is not fully discussed.

Diversity and lack of consensus are involved in post-processual archaeology (Hodder 1986:170). Because of the lack of standards in evaluating whether we have reached the right interpretation, we do not have a final position. We, thus, conclude that we cannot have certitude with respect to the conclusions of archaeology, but post-processual archaeology offers better prospects for justification of archaeological conclusions than does processual archaeology. We can still achieve better accommodations and new insights in a continuing process of interpretation (Hodder 1986:155).

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